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Locslide Floats

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(51) INT CL<sup>6</sup>

A01K 93/00

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A1A A18

(56) Documents Cited

GB 2098042 A    GB 0595970 A    US 5404669 A  
US 4845884 A    US 4047319 A

(58) Field of Search

UK CL (Edition O ) A1A A18  
INT CL<sup>6</sup> A01K 91/20 93/00

## (54) Fishing floats

(57) A line guide 1 for use with a float has outermost ends 2, rectangular cut-away sections 3 at either outermost ends 2. The line guide 1 further comprises an innermost cut-away section 6 on the upper side of the line guide which extends substantially but not completely across the entire upper side of the line guide. A depending peg 5 is centrally located on the underside of the line guide. The line guide 1 may be secured to a float by a clamp (7) (Fig. 4). The line guide 1 is provided with restraining means for restraining the guide with respect to a line, and with a sliding means for facilitating sliding of the guide with respect to the line.

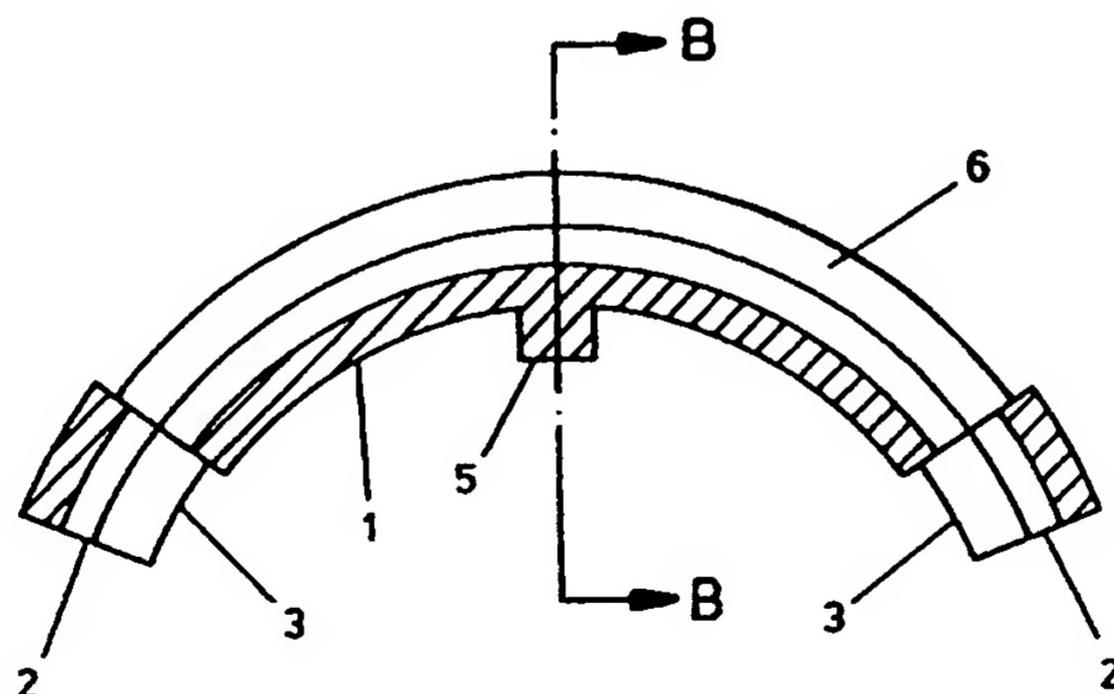


FIG. 2

## Best Available Copy

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.  
The claims were filed later than the filing date within the period prescribed by Rule 25(1) of the Patents Rules 1995  
The print reflects an assignment of the application under the provisions of Section 30 of the Patents Act 1977.

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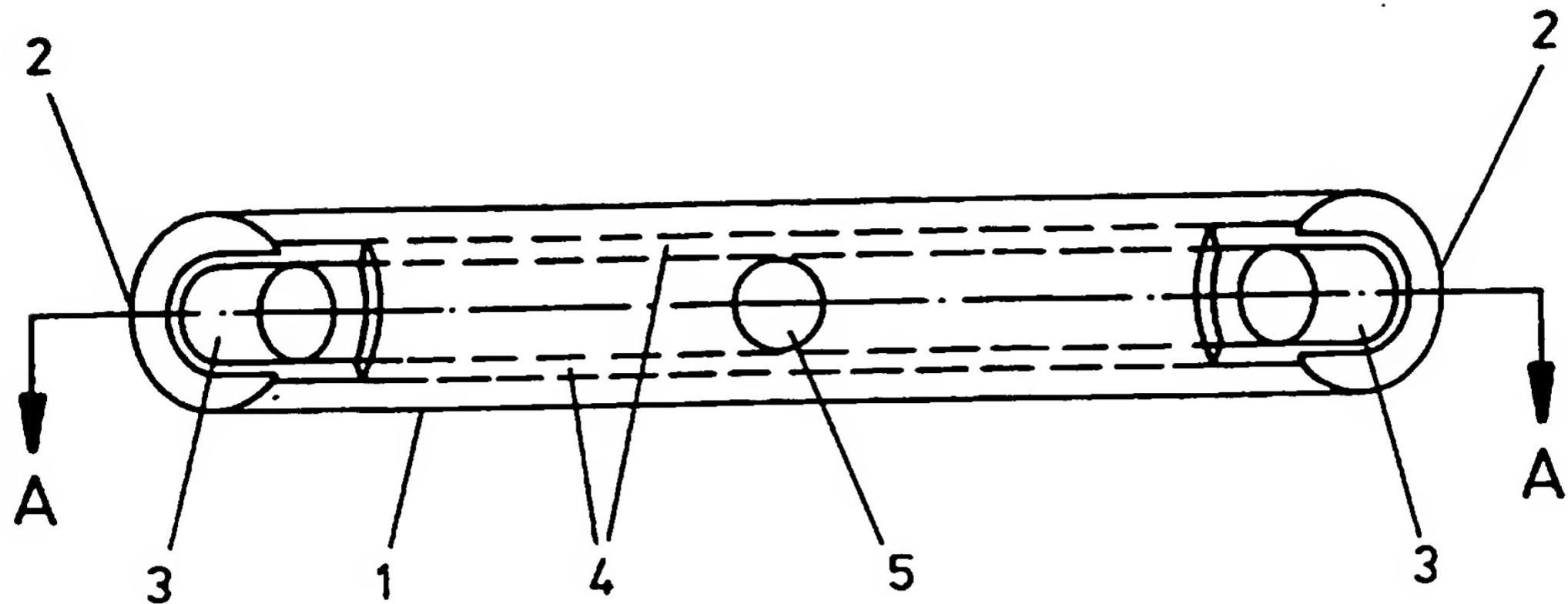


FIG. 1

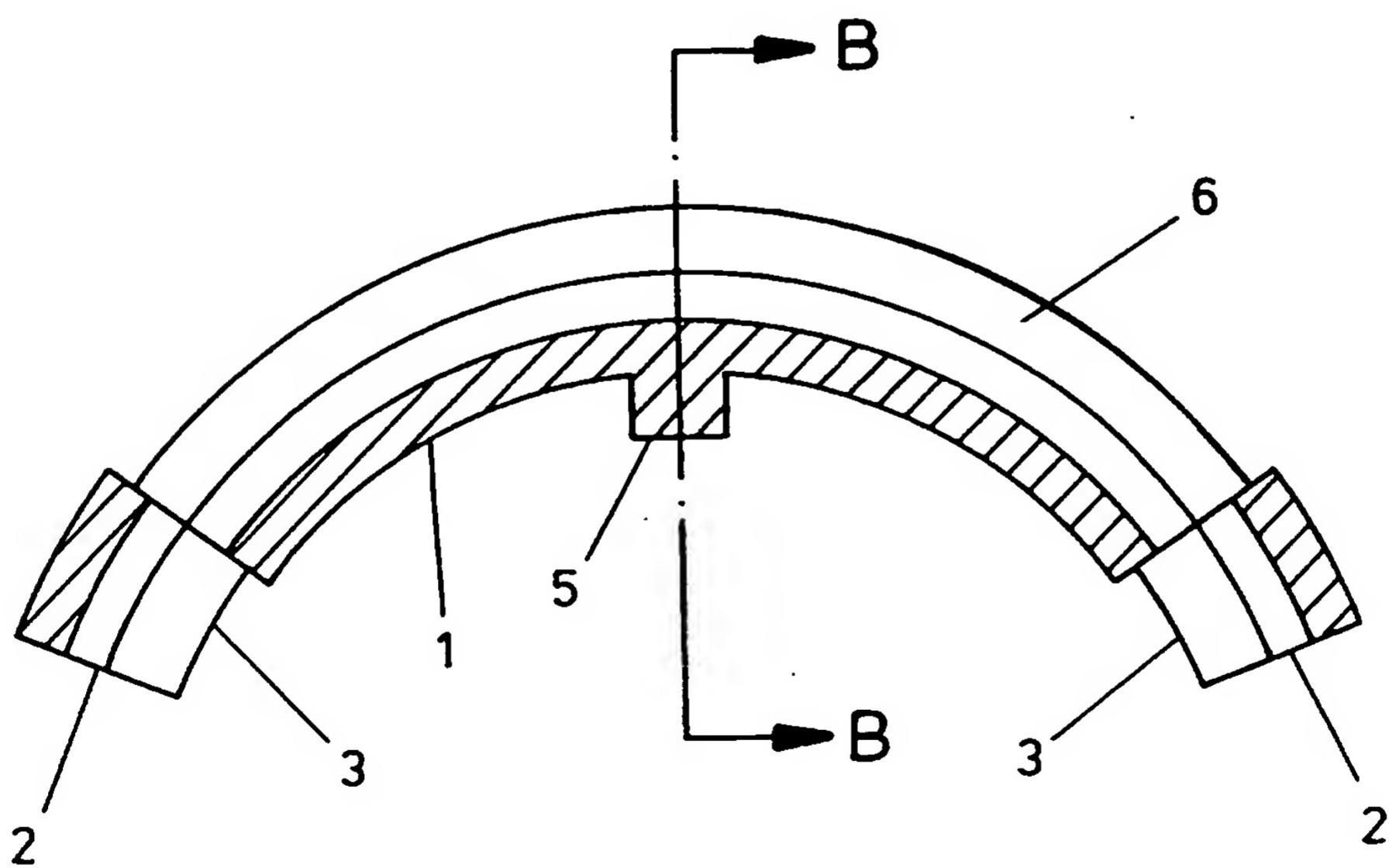


FIG. 2

-214-

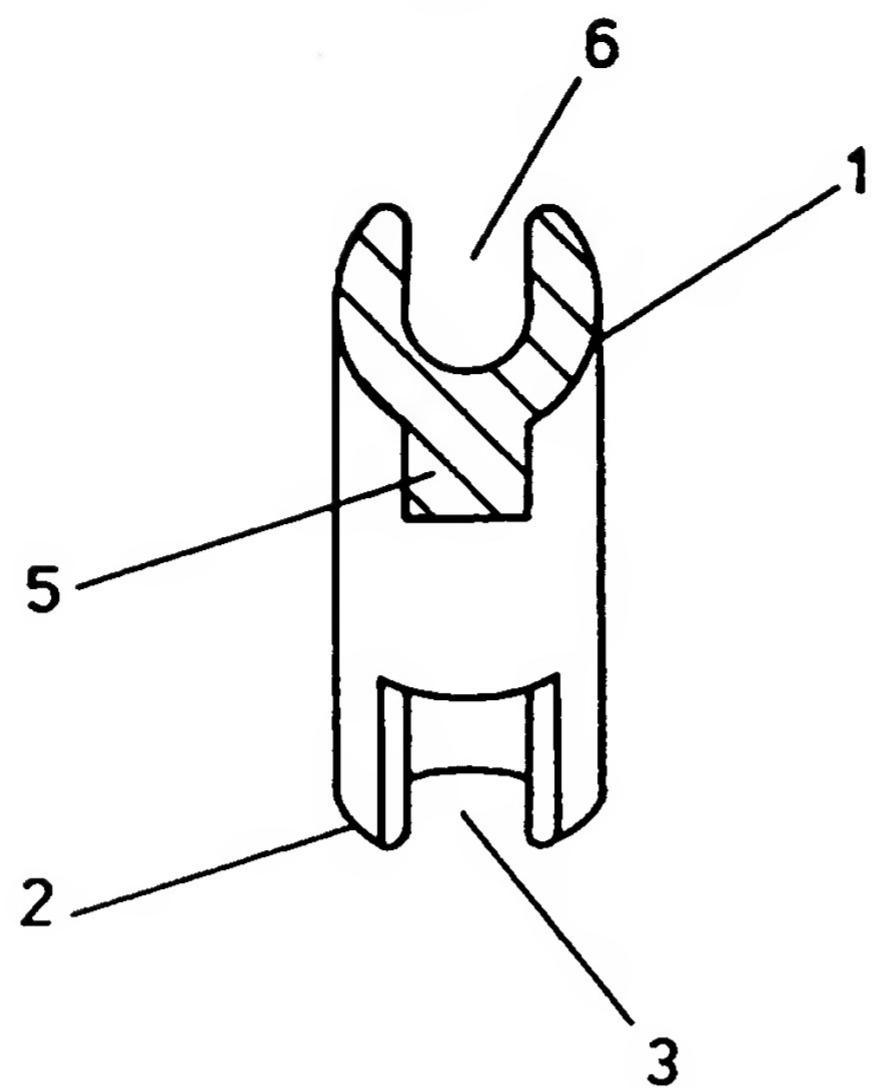


FIG. 3

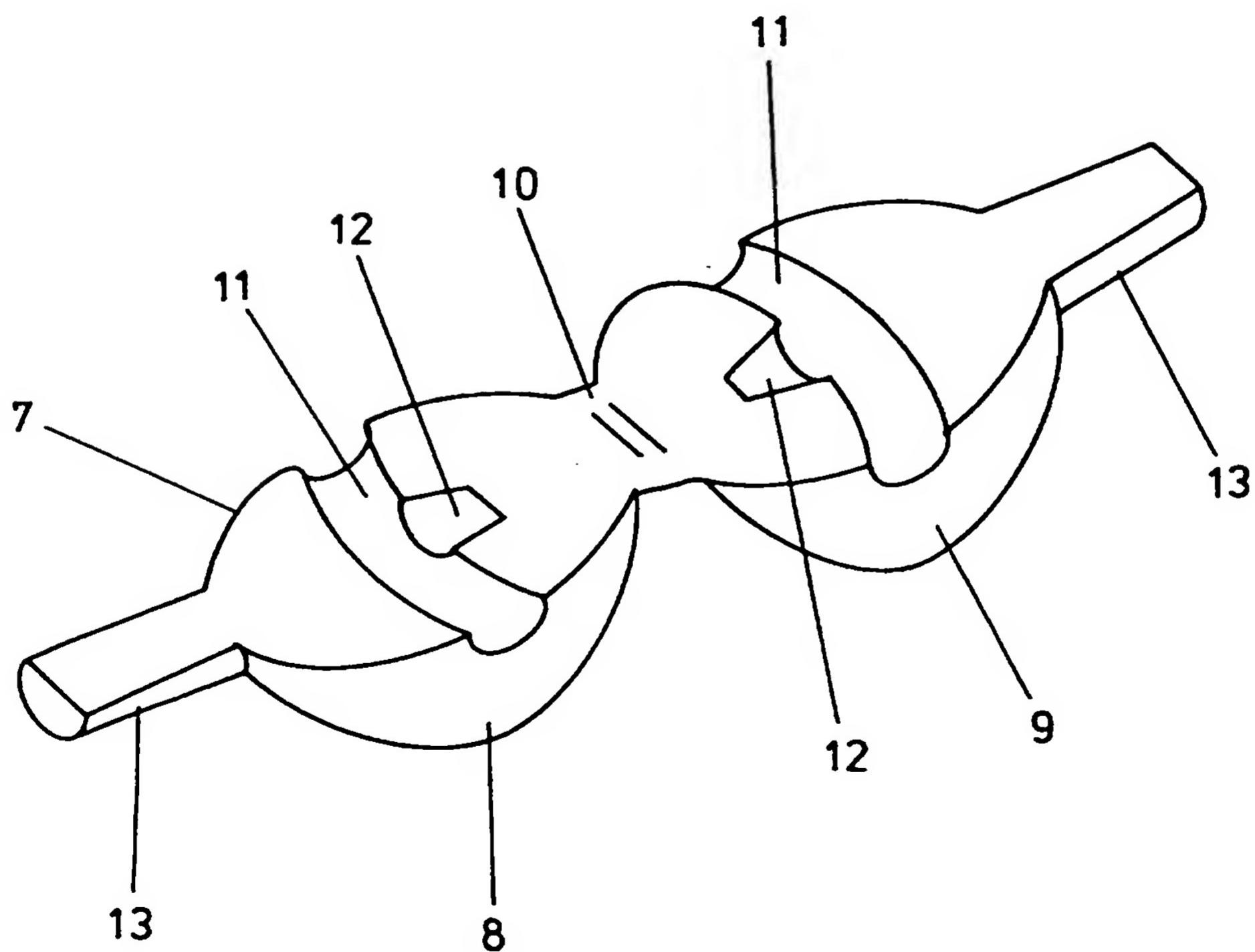


FIG. 4

- 3 / 4 -

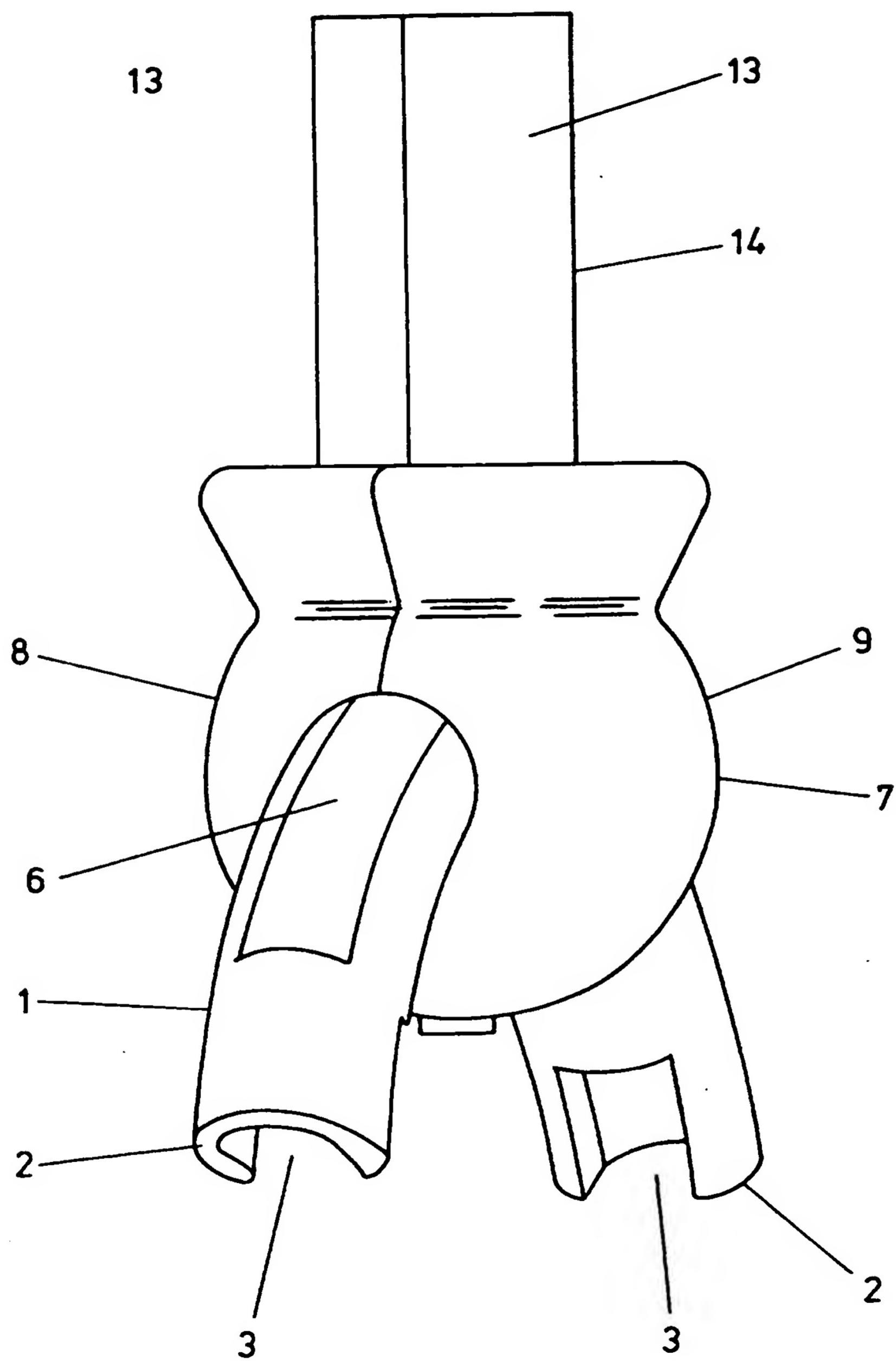
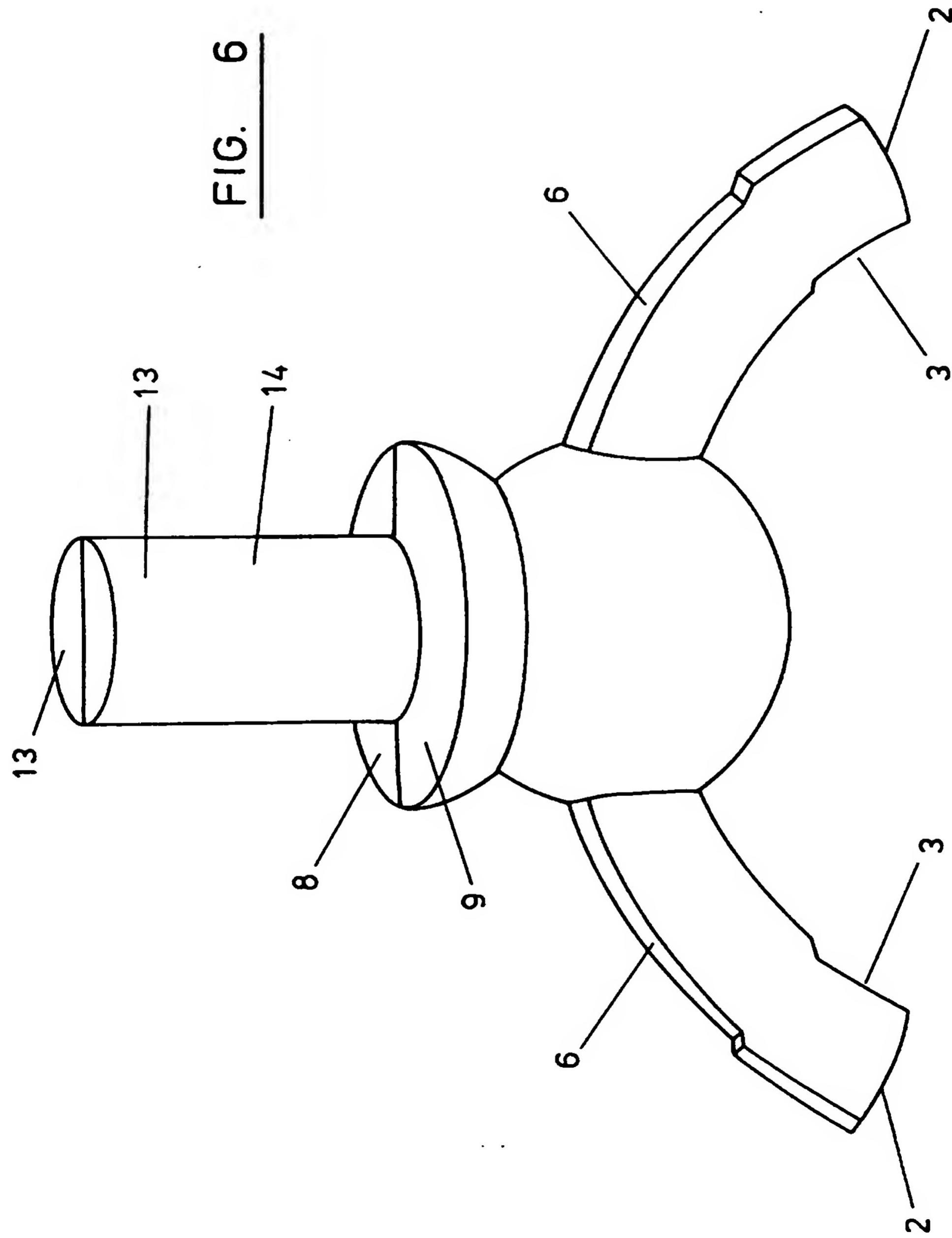


FIG. 5

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FIG. 6



**FISHING FLOAT TECHNOLOGY****Field of Invention**

This invention relates to fishing floats and particularly, but not exclusively, to novel means for attaching a fishing float to a fishing line.

**Background**

In the UK, angling is by far the largest participant sport with millions of people regularly pursuing their hobby next to lakes, canals, rivers and seas. There are three main branches of the sport of angling, these branches are; game angling, sea angling and coarse angling.

The quarry of the game angler is typically game fish, such as trout and salmon. Game fish, generally, are found in lakes and rivers. Sea angling, on the other hand, is practised around the coastline and estuaries of the UK. The quarry of a sea angler includes cod, plaice, conger eel, etc. However, coarse angling is by far the largest of the three branches of angling. The quarry of the coarse angler is coarse fish, such as roach, carp, bream, pike, eels, perch, etc.

Coarse angling is also popular abroad, particularly in European countries such as France, Germany, Denmark, the Netherlands, Ireland, Italy, Spain etc. In fact, coarse angling is practised wherever coarse fish are found.

Coarse anglers use a variety of techniques to deceive a fish into taking a baited hook into its mouth. However, a technique called legering is perhaps the most successful and commonly practised of all methods of coarse angling. Generally, legering involves anchoring a baited hook adjacent a relatively heavy weight, typically a lead weight. This lead weight is termed a leger weight, and for coarse fishing purposes normally weighs between a ¼-2 ounces (10g - 60g), however lead weights in excess of this are often used if required. In addition, swimfeeders are also used as the

weight.

The technique of legering relies on the skill and knowledge of the angler to deceive the fish into taking the baited hook into its mouth. In so doing, the fish generally causes the line to move. Provided the line is at the correct tautness, the angler can

5 detect this line movement. Movement of the line, termed a bite, may be detected in a number of ways, such as, by observing the rod tip, feeling the line for vibrations, or observing a visual indicator on the line positioned near or on the rod.

Typically legering is the technique of choice when the angler wishes to present his baited hook at relatively long distances from his/her fishing position, ie between 30-

10 100 metres away. In general the angler is able to vary the distance at which he/she wishes to present the baited hook, by varying the weight of the leger used.

As a result of the increasing popularity of angling, the angling pressure on many waters has increased. The effect of this is that fish have tended to move away from the marginal areas into the centre of the water which may be at great distances from

15 the bank. It will therefore be appreciated that legering is becoming increasingly popular with anglers to enable them to reach these fish and present them with a baited hook.

In addition, legering will often be the technique of choice when the angler wishes to present his/her baited hook to fish which are feeding at the bottom of deep water.

20 This is because other techniques such as float fishing are, in general, difficult in deep water. With the technique of float fishing it is necessary to fix the float at a distance above the hook which corresponds to the depth of the water. When fishing at depths of greater than 12 ft the distance between the float and the hook is often greater than the length of the rod, which makes casting difficult. The use of a sliding float avoids 25 these casting difficulties, however slider-float fishing is a difficult skill to master effectively.

Furthermore, legering will often be the technique of choice when the angler is presented with conditions of windy weather, when other techniques such as float

fishing become difficult due to the problem of controlling the float under such conditions.

As will be appreciated legering in all its different forms, is a valuable tool in the coarse angler's armoury. However, legering at medium to long distances, is a relatively poor method of detecting bites. This is for two main reasons. Firstly, the longer the length of line between the angler and the hook, the more likely it is that a bite may not be detected at the rod because there is greater than optimum slack line in the water. Secondly, with a long length of line in the water, there is appreciable resistance to a biting fish which on feeling the resistance will invariably drop the bait.

Furthermore, the long length of line in the water increases the likelihood of fish swimming into the line causing false bites.

#### Prior Art

In a previous invention, we overcame the problem of poor bite detection when legering at medium to long distances. Our invention involved a new legering technique in which bite detection was provided by a float which, in use, floated substantially above the leger weight and baited hook. Our float possessed a novel curved line or guide. Float fishing is a more pleasurable technique than watching an indicator near or on the rod which typically is used to detect bites when legering. It will therefore be appreciated that this float, when used in conjunction with our novel technique, has been acclaimed as a major contribution to the field of coarse angling.

Our novel line-guide comprised a simple curved length of resilient tubing. The length, and extent of curvature was carefully chosen to comprise four separate phases of our novel legering technique. These phases are:-

- a) The "cast" - during the cast the float must be restrained effectively on the line, typically next to the leger weight. Effective restraining of the float maximises casting distance, improves accuracy and, following the cast, results in sensitive bite detection.

- b) The "lift" - after the tackle has been cast and the float and leger weight have sunk to the bottom of the lake, the angler slackens the line to cause the line to slide easily through the line-guide assisted by the buoyancy of the float, as the float rises to the surface.
- 5 c) The "lock" - when the float has risen to the surface, the angler tightens the line to cause the float to cock. Sensitive bite detection relies on the effectiveness with which the line-guide restrains the float on the line. It will be appreciated that if the float is not restrained effectively, movement of the line caused by a biting fish will not be detected by the float and therefore the angler will fail to catch the fish.
- 10 d) The "retrieve" - when the tackle is retrieved, the line-guide restrains the float on the line until it impinges on the end of the rod causing the line to be drawn through the line-guide. To avoid line wear, the line must slide freely through the line-guide.
- 15 It will be appreciated from the above that the length and extent to curvature of the line-guide must be finely tuned. If the curvature of the line-guide is relatively sharp, the line will be restrained on the line providing excellent performance during the cast and the lift. However, the line-guide will not permit the line to guide freely through the line-guide during the lift and retrieve. Conversely, if the line-guide and the curvature is relatively straight, the line-guide will slide relatively freely during the lift and retrieve, however the line-guide will not restrain the float effectively on the line during the cast and the lock.
- 20

It will therefore be appreciated that the length and extent of curvature of the line-guide has to be finely tuned for it to work effectively during all four phases.

25 **Problems with the Prior Art**

As part of extensive trials using our novel legering technique, floats possessing our novel line-guide have been found to suffer from a number of problems. These

problems are as follows:

- a) On casting, it has been found that the float is not restrained effectively on the line during the cast, causing the float to slide up the line away from the leger. This is exacerbated when attempting to cast long distances. The effects are that, casting distance is shortened, accuracy is reduced, and insensitive bite detection results. It is therefore a problem with the prior art that the line-guide does not effectively restrain the float to the line during the cast.
- b) When the tackle has been cast, the float and leger weight all sink to the bottom of the lake. The angler slackens the line, which causes the line to pass through the line-guide as the float rises to the surface of the water. It is a problem with the prior art that the line-guide relatively restrains the line to the line-guide to such an extent that the float does not rise to the surface, or the float rises too slowly.
- c) When the leger weight has come to rest on the bottom of the lake, sensitive bite detection relies on the effectiveness with which the line-guide restrains the float on the line. It will be appreciated that if the float is not restrained effectively, movement of the line caused by a biting fish will not be detected by the float and therefore the angler will fail to catch the fish. It is therefore a further problem with the prior art that the line-guide does not effectively restrain the float to the line during bite detection.
- d) When the tackle is retrieved from the water, typically using a rod and reel, the tautness of the line in conjunction with the line-guide will cause the float to be relatively restrained on the line at a point corresponding to the depth of the water being fished. As the tackle is retrieved, there will come a point when the float will impinge on the end of the rod causing the line to be drawn through the line-guide. However, the prior art does not allow the line to be easily drawn through the line-guide and this leads to a number of practical problems, for example, the resistance causes the line to stretch which deforms the line and causes tangles. Eventually, this resistance will cause the line to

wear, which may result in the line breaking either during the cast or, worse still, when a specimen fish is being played. It will be appreciated by a skilled artisan that this latter problem will be exacerbated when using low breaking strain lines. It is therefore a yet further problem with the prior art that the line-guide does not slide freely on the line when the float is retrieved.

5

#### Object of the Invention

It is therefore an object of the invention to provide a line-guide for use with a fishing float which restrains the float effectively onto the line during the cast, and in particular when casting great distances. Effective restraining of the float during the 10 cast will increase casting distance and also improve accuracy. In addition, it will ensure that maximum sensitivity in bite detection is achieved.

10

It is a further object of the invention to provide a line-guide for use with a fishing float which will not create resistance when the float rises to the surface (the 'lift'), so that the float rises to the surface quickly.

15

It is a further object of the invention to provide a line-guide for use with a fishing float which effectively restrains the float onto the line during bite detection (the 'lock') so that sensitive bite detection is achieved.

20

It is a yet further object of the invention to provide a line-guide which will not create resistance when the line is drawn through the line-guide on retrieval of the hook, but instead is adapted to smoothly slide on the line.

It is an object of the invention to provide a line-guide for use with a fishing float which effectively restrains the float to the line and is adapted to slide on the line.

#### Statement of Invention

25

In its broadest aspect the invention provides a line-guide for a fishing float which is adapted:

- a) to restrain said float on a line during the cast; and/or
- b) to slide on a line so that the float rises to the surface (the lift); and/or
- c) to restrain said float during bite detection (the lock); and/or
- d) to slide on a line on retrieval of the leger and baited hook.

5 According to a first aspect of the invention there is provided a line-guide for use with a fishing float which is fashioned so that in a first orientation said guide is provided with a restraining means for restraining said guide with respect to a line; and in a second orientation said guide is provided with sliding means for facilitating sliding of said guide with respect to the line.

10 In a preferred embodiment said line-guide comprises a non-linear, and ideally curved, elongate tunnel means, ideally tubular, which is provided at either outermost end with at least one cut-away section and which is further provided inwardly of said ends with at least one cut-away section.

Preferably said end cut-away sections are aligned and ideally symmetrical.

15 Preferably said inward cut-away section is elongate and ideally provided on a side of said guide opposite to the side on which said end cut-away sections are provided.

Preferably said end cut-away sections are provided on an underside of said curved guide, and said inward cut-away section is provided on an upper side of said guide.

20 In use, the above described line-guide is attached to an end of a fishing float so that said outermost ends point away from the fishing float. The line-guide offers the advantages described below in all four phases of angling:

- a) firstly when casting, said guide will restrain said float on the line. It is believed that the inward cut-away section may be responsible for this improved

performance when casting.

- b) when the tackle has been cast and the float rises to the surface of the water, said guide causes the float to rise to the surface more quickly than the prior art.
- 5      c) when the angler is awaiting a bite, during bite detection, the guide will curve away from the surface of the water and so provide for effective restraining of the line in said guide.
- 10     d) on retrieving the line, the float will remain restrained on the line until said guide impinges on the endmost tip of the fishing rod. At this point, said guide will provide for efficient sliding of the line in said guide.

In a preferred embodiment said guide is attached to said float via a clamping means.

Said line-guide and clamping means can be made from any resilient material however, in a preferred embodiment it is envisaged that they are made from nylon or plastics material.

- 15     In a further aspect of the invention there is provided a float comprising a line-guide as herein described.

Preferably the line-guide is attached to the float so that said outermost ends point away from the fishing float.

- 20     It will be appreciated by someone skilled in the art of coarse angling that this invention can be used with all types of fishing floats. The invention can be used with floats attached to the line at one end only, generically termed waggles, for example, straight waggles, zoomers, onions, canal floats, stepped waggles, inserted waggles, missles, carp floats, pike floats, sea floats, bodied waggles, zoomers etc.

Furthermore, it is intended that the invention can also be used in conjunction with

- a) to restrain said float on a line during the cast; and/or
- b) to slide on a line so that the float rises to the surface (the lift); and/or
- c) to restrain said float during bite detection (the lock); and/or
- d) to slide on a line on retrieval of the leger and baited hook.

5 According to a first aspect of the invention there is provided a line-guide for use with a fishing float which is fashioned so that in a first orientation said guide is provided with a restraining means for restraining said guide with respect to a line; and in a second orientation said guide is provided with sliding means for facilitating sliding of said guide with respect to the line.

10 In a preferred embodiment said line-guide comprises a non-linear, and ideally curved, elongate tunnel means, ideally tubular, which is provided at either outermost end with at least one cut-away section and which is further provided inwardly of said ends with at least one cut-away section.

Preferably said end cut-away sections are aligned and ideally symmetrical.

15 Preferably said inward cut-away section is elongate and ideally provided on a side of said guide opposite to the side on which said end cut-away sections are provided.

Preferably said end cut-away sections are provided on an underside of said curved guide, and said inward cut-away section is provided on an upper side of said guide.

20 In use, the above described line-guide is attached to an end of a fishing float so that said outermost ends point away from the fishing float. The line-guide offers the advantages described below in all four phases of angling:

- a) firstly when casting, said guide will restrain said float on the line. It is believed that the inward cut-away section may be responsible for this improved

pointing out of the page towards the viewer.

Figure 2 shows a cross-sectional view of the line-guide viewed along section A-A of Figure 1.

Figure 3 shows a sectional view of the line-guide along section B-B of Figure 2.

- 5      Figure 4 shows a perspective view of the clamping means for attaching the line-guide to said float.

Figures 5 and 6 show perspective views of the assembled line-guide and clamping means ready for insertion into a fishing float.

Referring to Figure 1, there is shown an embodiment of the line-guide 1 viewed from  
10     the underside, with the outermost ends 2 pointing out of the page towards the viewer.  
Substantially rectangular cut-away sections 3 are shown at either outermost end 2,  
with dotted lines 4 defining the internal diameter of the essentially tubular line-guide.  
Figure 1 also shows peg 5, circular in cross-section, pointing out of the page in the  
same direction as outermost ends 2.

- 15     Referring to Figure 2 there is shown line-guide 1 viewed along a cross-section A-A  
of Figure 1. Curvature of the line-guide can be seen readily, with both outermost ends  
2 featuring cutaway sections 3. Figure 2 shows an innermost cutaway section 6 on  
the upperside of the line-guide which cutaway section extends substantially, but not  
completely, across the entire upperside of the line-guide. Figure 2 also shows  
20     downwardly depending peg 5, rectangular in cross section, centrally located on the  
underside of the line-guide.

Referring to Figure 3 there is shown line-guide 1 viewed along cross section B-B of  
Figure 2. Figure 3 clearly shows a substantially rectangular end cutaway section 3 on  
the underside of the line-guide and inward cutaway section 6 on the upper side of the  
line-guide. Figure 3 also shows rectangular peg 5 on the underside of the line-guide.  
25

In this embodiment, line-guide 1 is attached to a fishing float via clamp 7 (Figure 4). Referring to Figure 4 there is shown a perspective view of clamp 7 in an un-clamped position. Clamp 7 comprises two symmetrical halves, 8 and 9. Halves 8 and 9 are joined, via hinge 10. Each half 8 and 9, comprises a central, elongate curved channel portion 11 essentially semicircular in cross section. A notch 12 is provided in fluid connection with the said channel. An outwardly projecting stem 13 is provided on each outmost edge of halves 8 and 9. Said channel portions 11 and notches 12 are fashioned so as to securely accommodate line-guide 1.

In this embodiment line-guide 1 is secured to the float, via clamp 7 in the following manner. Firstly, said line-guide is placed in one of said channel portions 11, so that peg 5 of said guide 1 engages with the corresponding notch 12. Secondly, the other half is folded about hinge 10 so that said channel portion and notch 12 of this half engage with line-guide 1. Halves 8 and 9 both possess a stem 13, semicircular in cross section, which forms a male part of circular cross section when the two halves 8 and 9 are brought together in clamped position. In this clamped position the formed male part is adapted to be fixedly inserted into a female part in a fishing float. In this fashion clamp 7 securely holds line-guide 1 with the outermost ends 2 of the line-guide pointing away from the fishing float 13.

Figures 5 and 6 show perspective views of the assembled line-guide and clamping means ready for insertion into a fishing float. Figures 5 and 6 shows the clamping means 7 in clamped mode so that the semicircular stem members 13 form a male part 14 essentially circular in cross section for insertion into a fishing float. In addition, Figures 5 and 6 also show innermost cutaway section 6 of line-guide 1. Figure 6, in particular, shows innermost cutaway section 6 divided into essentially two cutaway portions.

The fishing tackle is assembled by threading the end of the fishing line into either of end cutaway sections 3 of line-guide 1, and passing the line around the inside of curved line-guide 1, through clamp 7 and out of the other cutaway section 3. The end of the fishing line is then attached to the baited hook and leger weight.

It will be appreciated from the above to those skilled in the art that the fishing tackle is simple and quick to set up and, moreover, there is no requirement for the depth of the water to be determined, which typically is required when a conventional float is used.

- 5 During field trials it has been shown that during casting, the line-guide is more effective at restraining the float near to the leger weight than the prior art. It is believed that inward cut-away section 6 facilitates this effective restraining however it is not intended that this should be construed as the definitive way that the invention works, rather it is proffered by way of suggestion only.
- 10 After the tackle is cast into the water, it sinks to the bottom of the water. The angler allows the line to slacken, so permitting the line to pass through the guide assisted by the buoyancy of the float which rises substantially vertically to the surface of the water (the lift). Extensive field trials using the invention have shown that rounding the edges of cut away sections 3 improves the lift phase.
- 15 On seeing the float at the surface of the water, the angler increases the tension of the line so that the float cocks. Tension is increased further until just the coloured tip of the float is viewable on the surface of the water.
- 20 It will be appreciated by persons skilled in the art that when the tackle is set up as described above, bite detection is extremely sensitive, in that any movement of the leger weight and/or baited hook, caused by a fish, will be indicated on the float, usually causing the float to submerge or lift. In particular, when using this technique a biting fish typically causes the float to rise dramatically, to an extent not usually experienced with float fishing generally. On detecting a bite, the angler will invariably strike so as to hook the fish.
- 25 It will be further appreciated by persons skilled in the art, that in order to provide sensitive bite detection the float must be effectively restrained on the line during bite detection (the lock). If the float was not effectively restrained on the line during bite detection, then movement of the baited hook may not be indicated by the float. The

angler would thus be unaware that a fish had taken the bait and the fish would not be caught. In field trials, it has been shown that the line-guide described in this application is more effective at restraining the float on the line during bite detection, than the prior art.

5 This invention is also advantageous when the angler retrieves the tackle, so as to land a fish or otherwise. On retrieval, the float will hang downwards so the ends of the line-guide point upwards. In general, retrieving fishing tackle using a fishing reel, whether to land a fish or otherwise, causes the line to vibrate caused by the action of the reel. Due to this vibration, it is likely that the line within the line-guide 1 will exit  
10 the line-guide from the end cutaway sections 3, rather than the end-most portions 2 of the line-guide 1. It will be appreciated that line leaving the line-guide via the end cutaway sections 3 adopts a relatively shorter arc than if the line left the line-guide via the endmost parts 2 of the line-guide. We speculate only that the shorter arc offers less resistance to the line in the line-guide than if the line were to exit at the  
15 endmost portions 2 and therefore the line-guide readily slides down the line.

Furthermore, the relatively shorter arc created by the presence of endmost parts 2 enable the line-guide to slide relatively freely during the lift and retrieve phases. It will be appreciated that this will enable the extend of curvature and/or length of the line-guide to be increased to improve the restraining of the line during the cast and  
20 lock phases.

It will further be appreciated that the line-guide described in this application offers distinct advantages over the prior art. In particular, it offers advantages in four phases of angling; the cast, the lift, bite indication (the lock), and retrieval of the line.

CLAIMS

1. A line guide for use with a fishing float fashioned such that in a first orientation said guide is provided with a restraining means for restraining said guide with respect to a line; and in a second orientation said guide is provided with sliding means for facilitating sliding of said guide with respect to the line.
2. A line guide according to claim 1 comprising a non-linear elongate tunnel means having at either outermost end at least one cut-away section and further comprising inwardly of said ends at least one cut-away section.
3. A line guide according to claim 2 wherein the elongate tunnel means is curved.
4. A line guide according to claim 2 or claim 3 wherein the elongate tunnel means is tubular.
5. A line guide according to anyone of claims 2 to 4 wherein said end cut-away sections are aligned.
6. A line guide according to claim 5 wherein said end cut-away sections are symmetrical.
7. A line guide according to any one of claims 2 to 6 wherein said inward cut-away section is elongate.
8. A line guide according to claim 7 wherein said inward cut-away section is provided on a side of said guide opposite to the side on which said end cut-away sections are provided.
9. A line guide according to any one of claims 2 to 8 wherein said end cut-away sections are provided on an underside of said curved guide, and said inward cut-away section is provided on

an upper side of said guide.

10. A line guide according to any one of the preceding claims further comprising clamping means.

11. A line guide according to any one of the preceding claims made from nylon or plastics material.

12. A line substantially as hereinbefore described with reference to the accompanying drawings.



The  
Patent  
Office

16

Application No: GB 9519253.0  
Claims searched: 1-12

Examiner: R F PHAROAH  
Date of search: 8 January 1997

**Patents Act 1977**  
**Search Report under Section 17**

**Databases searched:**

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK CI (Ed.O): A1A: A18

Int CI (Ed.6): A01K: 91/20, 93/00

Other:

**Documents considered to be relevant:**

Category	Identity of document and relevant passage	Relevant to claims
X	GB 2098042 A (CLARKE) see page 1 line 115- page 2 line 10	1
X	GB 0595970 A (MOLYNEAUX) see page 1 lines 52-63	1
X	US 5404669 A (JOHNSON) see columnn 3 line 58- column 4 line 27	1,10,11
X	US 4845884 A (PACITTI) see column 3 lines 5-23	1
X	US 4047319 A (DUNCAN) see column 3 lines 3-27	1,10

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